U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report No. 50-329/78-11; 50-330/78-11

Docket No. 50-329; 50-330 License No. CPPR-81; CPPR-82

Licensee: Consumers Power Company
1945 West Parnall Road
Jackson, MI 49201

Facility Name: Midland Nuclear Power Plant, Units 1 and 2

Inspection At: Midland Site, Midland, MI

Inspection Conducted: September 26-28, 1978

Inspector: K. D. Ward 10/25/78

Approved By: for D. H. Danielson, Chief 10/26/78
Engineering Support Section 2

Inspection Summary

Inspection on September 26-28, 1978 (Report No. 50-329/78-11; 50-330/78-11)
Areas Inspected: Babcock and Wilcox Construction Co. (B&W) nondestructive examination (NDE) program, procedures, personnel certifications and equipment. The inspection involved 23 onsite inspection hours by one NRC inspector.
Results: No items of noncompliance or deviations were identified.

DETAILS

Persons Contacted

Consumers Power Company (CPCo)

*B. H. Peck, Construction Supervisor
*W. R. Bird, Section Head, QAE
*J. L. Corley, IE & TV
*R. E. Whitaker, QAE
*R. Ostrowski, NDE Specialist

Babcock and Wilcox Construction Company (B&W)

*V. N. Asgaonkar, Project Manager
*R. W. Shope, QC Supervisor
*R. D. Murphy, NDE Supervisor
D. W. Davis, Jr., Field Welding Supervisor

Bechtel Power Corporation (Bechtel)

*C. W. Cross, Subcontractor Representative
*F. C. Kucera, Subcontractor Representative

United States Nuclear Regulatory Commission

*R. J. Cook, Resident Inspector

The inspector also contacted and interviewed other licensee and contractor employees.

*Denotes those attending the exit interview.

Functional or Program Areas Inspected

1. B&W Nondestructive Examination (NDE) Procedures

   a. The inspector reviewed B&W NDE procedures in accordance with ASME Section III, 1971 Edition with Summer 1973 Addenda.

      (1) General Procedure for Magnetic Particle Examination No. 9-MT-100, Rev. 1, March 31, 1977.

      (2) Magnetic Particle Examination of Welds Using the Prod Method, No. 9-MT-101, Rev. 1, April 1, 1977.

(3) Magnetic Particle Examination of Weld Edge Preparation No. 9-MT-102, Rev. 1, April 1, 1977.

(4) Magnetic Particle Examination of Base Materials Using the Prod Method, No. 9-MT-103, Rev. 1, April 1, 1977.

(5) Magnetic Particle Examination of Welds Using the Yoke Method, No. 9-MT-104, Rev. 1, April 1, 1977.

(6) Magnetic Particle Examination of Base Materials Using the Yoke Method, No. 9-MT-105, Rev. 1, April 1, 1977.

(7) Magnetic Particle Examination of Welds Using the Prod Method, No. 9-MT-106, Rev. 1, April 1, 1977.

(8) General Procedure for Liquid Penetrant Examination, No. 9-PT-100, Rev. 1, March 31, 1977.

(9) Liquid Penetrant Examination of Welds, No. 9-PT-101, Rev. 1, April 1, 1977.

(10) Liquid Penetrant Examination of Weld Edge Preparation, No. 9-PT-102, Rev. 1, April 1, 1977.

(11) Liquid Penetrant Examination of Base Materials, No. 9-PT-103, Rev. 1, April 1, 1977.

(12) General Procedure for Radiographic Examination, No. 9-RT-100, Rev. 2, October 4, 1977.

(13) Radiographic Examination of Circumferential Butt Welds, No. 9-RT-101, Rev. 1, April 1, 1977.

(14) Radiographic Examination of Circumferential Butt Welds, No. 9-RT-102, Rev. 1, April 1, 1977.

(15) General Procedure for Ultrasonic Examination No. 9-UT-100, Rev. 1, March 31, 1977.

No items of noncompliance or deviations were identified in the above areas.

2. B&W, NDE Personnel Qualification Procedures

a. The following NDE Personnel Qualification procedures were reviewed in accordance with SNT-TC-1A, 1975 Edition.

(1) Personnel Qualification - Radiographic Examination No. 9-NDE-100, Rev. 1, April 1, 1977.

(2) Personnel Qualification - Magnetic Particle Examination No. 9-NDE-101, Rev. 1, April 1, 1977.

(3) Personnel Qualification - Liquid Penetrant Examination No. 9-NDE-102, Rev. 1, April 1, 1977.

(4) Personnel Qualification - Ultrasonic Examination No. 9-NDE-103, Rev. 1, April 1, 1977.

(5) Personnel Qualification - Quality Control Inspectors No. 9-QPP-126, Rev. 2, October 4, 1977.

No items of noncompliance or deviations were identified above.

3. QA Audit Program

The inspector reviewed the report of a QA audit that was conducted by Consumers Power on B&W in Copley, Ohio, September 5, 1978, (Audit Report No. 03-83-8).

No items of noncompliance or deviations were identified.

4. B&W Personnel Certifications

a. The inspector reviewed the following NDE personnel certifications that were in accordance with SNT-TC-1A, 1975 Edition.

Name	Method	Level
J. Tooley	RT	I
H. Stout	PT-MT-RT	II
R. Shope	PT-MT-RT	II
R. Murphy	PT-MT-RT	II

No items of noncompliance or deviations were identified.

5. Radiographic Welds

The inspector reviewed documentation for the following welds that were radiographed by B&W in accordance with ASME III, 1971 Edition through Summer 1973 Addenda.

Core Flood System, Class I

ID	Weld No.	Dia.	Thickness	Date
2CCA21	18	15 1/4"	1 1/4"-1 3/4"	6/30/78
2CCA20	9	15 1/4"	1"-1 3/4"	6/23/78
2CCA15	17	3"	0.375"	8/11/78
2CCA15	8	3"	0.375"	8/17/78
2CCA19	12	3"	3/8"	9/12/78
2CCACR1	31	1/2"	Sch. 80	4/13/78
2CCACR1	38	1/2"	Sch. 80	4/13/78

No items of noncompliance or deviations were identified.

6. B&W, NDE Facilities

The inspector toured the B&W facilities, escorted by R. Ostrowski, CPCo NDE Specialist and R. D. Murphy, B&W NDE Supervisor, and noted the following:

a. Radiography (RT)

(1) NRC License No. 34-02160-04 expires November 30, 1978. Acceptable for Ir 192 up to 100 curies and Co 60 up to 100 curies.

(2) Condition of film cassettes were acceptable.

(3) Intensifying lead screens in cassettes were in acceptable condition.

(4) L[illegible] screens (.010 thick) are used in front and in back of the film in the cassettes.

(5) The ASTM penetrameters are the only penetrameters used on site, were in acceptable condition and received certifications, No. NSS-12 and 13 on May 1, 1978.

(6) The hand film processing tank was in acceptable condition.

(7) The densitometer used on site is a Macbeth and it is in acceptable condition.

(8) There are two Ir 192 sources on site, 100 curies and 38 curies.

(9) There are no Co 60 sources or x-ray machines on site.

(10) B&W use the correct signs in transporting radioactive sources on site.

(11) The sources are stored outside of B&W trailers locked in a metal box with construction blocks used as the liner.

(12) Various thicknesses of shims are used under the penetrameters.

(13) B&W only uses lead numbers for identification.

(14) Acceptable color rope and signs are available for securing areas when radiography is being performed.

(15) Survey instruments are calibrated every 90 days.

(16) Film badges are sent out and processed every week.

(17) Individuals' pocket dosimeters are checked and recorded every day when in use.

(18) The decay curves of the Ir 192 sources are located in a booklet in the B&W trailer for the NDE personnel to use.

(19) The inspector was informed that all onsite NDE personnel could calculate an exposure on the calculator.

(20) B&W has a spot and high intensity viewer onsite.

(21) B&W uses GAF and Kodak industrial radiographic film.

(22) The film is stored in a heated and air condition store room.

b. Magnetic Particle (MT)

(1) B&W has one prod unit, Herg Manufacturing Company, 100 amp.

(2) There is one yoke unit Magnaflux X5.

(3) Finely divided materials from Magnaflux, colors red and gray are used.

c. Liquid Penetrant (PT)

(1) Magnaflux materials are used onsite.

(2) The materials are stored in a heated and air conditioned store room.

(3) Certifications are received on the materials, batches No. 91406, 78E054 and 78G023.

d. Ultrasonic (UT), Eddy Current (ET), Leak Testing (LT)

To date, B&W has not performed a UT, ET or LT onsite.

e. General

(1) B&W, NDE facilities in general, are in acceptable condition.

No items of noncompliance or deviations were identified in the above areas.

Exit Interview

The inspector met with site staff representatives (denoted under Persons Contacted) at the conclusion of the inspection on September 28, 1978. The inspector summarized the purpose and findings of the inspection.